DEPARTMENT OF THE NAVY
NAVAL RESERVE READINESS COMMAND REGION TWENTY TWO
BUILDING 2102, NAVAL STATION
EVERETT, WASHINGTON 98207-2600

NAVRESREDCOMREG22INST 4100.2A
N4
30 Mar 99

NAVRESREDCOM REG TWO TWO INSTRUCTION 4100.2A

Subj: ENERGY MANAGEMENT

Ref: (a) OPNAVINST 4100.5D
(b) OPNAVINST 4100.8A
(c) COMNAVRESFORINST 4100.2C

Encl: (1) Sample Monthly Defense Utility Energy Reporting System (DUERS) Consumption Report
(2) Energy Management Guidelines for Shore Activities
(3) Sample Energy Audit Checklist

1. Purpose. To revise policy, objectives, goals, and assign responsibilities for energy management for all REDCOM 22 Naval Reserve Activities (NRA). This is a major revision of the instruction and should be read in its entirety.

2. Cancellation. NAVRESREDCOMREG22INST 4100.2. Changes to this instruction are so extensive, it requires a complete review.

3. Discussion. Reference (a) established policy for energy management and set guidelines for energy consumption reduction by all shore activities. These goals are:

(1) Existing Buildings: Reduce energy consumption per thousand square feet by 30 percent (1.5 percent per year) by the end of FY 2005.

(2) New Buildings: Reduce the estimated annual design energy usage per gross square foot by 1 percent per year achieving a 20 percent reduction for those buildings designed in FY 2005 compared with comparable buildings designed in FY 1985.

4. Action.

a. REDCOM 22 (N4) will:

(1) Consolidate input of enclosure (1) for all REDCOM 22 NRA's and submit consolidated report to Director of Facilities West (DIRFAC West). Report symbol DD-AT&T(M)1313(4100) is assigned to this reporting requirement.

(2) Monitor compliance with enclosure (2), and assist Naval Station Everett, Energy Manager in obtaining the goals and objectives of reference (a).

(3) Assign a Building Energy Monitor (BEM) and ensure energy management audits are conducted a minimum of quarterly utilizing enclosure (3) of this instruction or a locally tailored form.

b. DIRFAC West will:

(1) Maintain records of energy consumption to ensure compliance with reference (a) by each activity.

(2) Administer for the DUERS, formerly the Defense Energy Information System, Part II (DEIS II).

(3) Provide policy and tools to assist activities in preparing energy management plans.

(4) Verify and update Real Property Inventory data to establish the MBTU/square foot (gross area) baseline by which activity energy conservation is measured.

(5) Prepare projects for energy conservation and incorporate energy conservation measures in facility repair projects.

c. NRA Commanding Officers will:

(1) Submit monthly DUERS report (enclosure 1) in accordance with reference (b) to reach REDCOM 22 (N42) not later than the last workday prior to the 26th of each month. The report will include energy consumption for the previous month (i.e. March consumption will be reported by 23 April).

(2) Maintain baseline data as previously submitted, and ensure all practical efforts are made to improve the management of Navy energy consumption following the objectives and goals of references (a) through (c), and this instruction.

(3) Comply with energy management standards for shore facilities as provided by enclosure (2).

(4) Appoint an Energy Conservation Manager to manage the Command's Energy Conservation Program.

(5) Appoint an Energy Conservation Management Committee. The membership should be comprised of the Commanding Officer, Energy Conservation Manager, and Facilities Officer at a minimum, with additional members as appropriate.

(6) Develop and maintain a local instruction to implement the energy reduction goals and objectives of reference (a) through (c).

d. Energy Conservation Manager will:

(1) Be responsible to the Commanding Officer for complying with the energy management guidelines for shore activities in accordance with references (a) through (c) and this instruction.

(2) Assign a BEM and ensure energy audits are conducted a minimum of quarterly, utilizing enclosure (3) or a locally tailored form.

e. Energy Conservation Management Committee will:

(1) Implement and maintain an Energy Conservation Program in accordance with reference (c).

(2) Promote increased Command energy awareness through using posters, publications, General Military Training, and staff meetings.

f. Building Energy Managers will:

(1) Be responsible to the Energy Conservation Manager for achieving the goals and objectives on the Command's Energy Conservation Program.

(2) Serve as the primary point of contact for energy issues, problems and costs.

(3) Recommend energy saving changes to the building's operating procedures.

(4) Monitor the operation of the building through conducting energy audits utilizing enclosure (3) or a locally tailored form.

(5) Ensure compliance with enclosure (2).

5. Reports. Report symbol DD-AT&T(M) 113(4100) is assigned to the DUERS reporting requirement.

JOHN B. BELL

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LIST B

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NAVRESREDCOM REG TWO TWO (N01A)

SAMPLE MONTHLY DUERS REPORT

From: Commanding Officer, (Naval Reserve Activity)
To: Commander, Naval Reserve Readiness Command Region Twenty-two (N42)

Subj: DEFENSE UTILITY ENERGY REPORTING SYSTEM FOR THE MONTH OF _____

Ref: (a) OPNAVINST 4100.5D

1. Per reference (a), the following energy consumption data for the month of March 1997 is submitted:

(a) UTILITIES

TYPE	UNIT/MEASURE	AMOUNT CONSUMED	COST
Electricity	KWH	_____	_____
Natural Gas	BTU/THERM	_____	_____

2. Activity Point of Contact and phone number is:_____
_____.

_____
(Commanding Officer)

ENERGY MANAGEMENT GUIDELINES FOR SHORE ACTIVITIES

1. Facilities Operation. Operating hours of facility energy systems shall be minimized to the greatest extent possible without adversely affecting mission requirements, building materials and systems, and quality of life of personnel using or living in the facility.

2. Comfort, Heating, and Cooling

a. Bachelor Quarters, Administrative Spaces, and Family Housing:

(1) Cooling: Spaces authorized comfort cooling shall be maintained at temperatures no lower than 78 degrees Fahrenheit (24.4 degrees Celsius). During unoccupied hours, cooling systems shall be secured where appropriate.

(2) Heating: Spaces required comfort heating shall be maintained at temperatures no higher than 70 degrees Fahrenheit (21.1 degrees Celsius). During unoccupied hours, temperatures shall be set no higher than 55 degrees Fahrenheit (12.8 degrees Celsius).

b. Laboratories, shops, warehouses, etc: Temperatures shall be maintained to minimize energy consumption, with 55 degrees Fahrenheit (12.8 Celsius) being maximum for heating purposes in storage spaces.

3. Domestic Hot Water Temperatures

a. For other than family housing and special purposes (laundries and galleys), water temperatures should not exceed 105 degrees Fahrenheit (40.6 degrees Celsius) at point of use. Domestic hot water circulating pumps and heating elements shall be turned off during unoccupied hours.

b. For family housing without dishwashers, hot water temperatures shall not exceed 120 degrees Fahrenheit (48.9 degrees Celsius).

c. For family housing with dishwashers, hot water temperatures shall not exceed 140 degrees Fahrenheit (60.0 degrees Celsius).

d. For special purposes (laundries and galleys), hot water temperatures shall be maintained to minimize energy consumption.

4. Interior Lighting

a. Administrative Areas: During occupied hours, overhead lighting shall be 50 foot-candles at workstations, 30 foot-candles in work areas, and 10 foot-candles in passageways. During unoccupied hours, all possible lighting systems shall be turned off. The use of incandescent lighting shall be minimized. High efficiency florescent and other high efficiency lighting systems shall be used to the maximum extent possible.

b. All other areas: Lighting levels shall be set to minimize energy consumption.

5. Exterior Lighting. The maximum practical use of high efficiency equipment, such as high-pressure sodium lighting, is encouraged. Exterior lighting shall be turned off when not required, making use of automatic controls such as photocells and time clocks.

6. Heating and Power Plants. All heating and power plants shall be operated at optimum efficiency at all loads. The combustion efficiency of all continuously manned boilers shall be checked every eight hours to ensure operation is within five percent of optimum efficiency. The combustion efficiency of all other boilers, with 350,000 BTU per hour input capacity or greater, shall be checked at least monthly.

7. Steam Systems. Exterior steam distribution systems and steam systems in buildings shall be maintained to minimize losses. Steam traps shall be inspected annually and repaired as necessary. All steam leaks shall be repaired and bare steam piping, including valves, shall be insulated.

8. Heating, Ventilation and Air Conditioning Systems. Heating, ventilation, and air conditioning equipment shall be operated and maintained to minimize energy usage with particular attention paid to calibration and adjustment of controls, reduction of damper air leakage, and efficient operation of chilled water systems.

9. Weatherization. All buildings shall be weatherized as appropriate for facility type, use, and location.

ENERGY AUDIT CHECKLIST

Building Number: _____

Energy Monitor: _____

Code/Shop: _____

Telephone: _____

Responsible for what percentage of the building:

_____

Indicate use or primary function within the building:

_____

Date this check point list was last revised:

_____

LIGHTING

ITEM	CHECK POINT DESCRIPTION	YES	NO	CORRECTIVE ACTION
1	Is exterior lighting off during day?			
2	Is lighting used only when needed?			
3	Do janitorial services use only lights actually needed for cleaning?			
4	Have all areas been evaluated for lighting fixture deactivation?			
5	Have lighting levels been evaluated to ensure Navy standards are met?			
6	Is lighting on weekends used only when needed and have personnel been instructed on the use of this lighting?			
7	Is 70% of your high bay lighting being shut off during lunch break? If not, what ____%?			

HEATING /COOLING

ITEM	CHECK POINT DESCRIPTION	YES	NO	CORRECTIVE ACTION
8	If heating control is accomplished from the central computer, does the computer schedule match you occupancy schedule?			
9	Are thermostats tamper-proof so set- points are not easily changed?			
10	Are heating thermostat set points set to maintain 70 degrees F or lower?			
11	Is air conditioning (A/C) set for 78 degrees F and shut down during unoccupied hours?			
12	Has each A/C system been approved by installation code for use in the building?			
13	Has use of portable electric space heater been approved by code?			
14	Are there exterior steam losses?			
15	Is steam heating supply lines manually secured during the summer?			
16	Is steam and hot water piping insulated (interior and exterior piping)? Inspection should include identifying damaged insulation.			
17	In air-conditioned spaces, are the doors and windows closed when the A/C is on?			
18	Are the exhaust ventilation systems only run when needed?			
19	Are restroom exhaust fans shut of during unoccupied hours?			
20	Are doors and windows kept shut during the winter?			
21	Is weather-stripping found to be adequate?			
22	Are manually operated roof relief dampers closed during the heating season?			

MISCELLANEOUS

ITEM	CHECK POINT DESCRIPTION	YES	NO	CORRECTIVE ACTION
23	Is domestic hot water at the lowest possible set point (105 degrees F)?			
24	Are there any leaking faucets?			
25	Are process tank temperatures reduced during periods of non-use?			
26	Are compressed air leaks kept to a minimum? Hand held tools and hoses should be disconnected during periods of non-use.			
27	Is paint drying operations used effectively?			
28	Is welding and associated equipment shut off when not needed?			
29	Do you receive utility usage and cost reports for your building? Do you manage this data?			
30	Does this checkpoint list accurately summarize any energy used within your facility?			
31	Are energy awareness materials displayed throughout the building?			
32	Are microcomputers, copy machines, etc. being shut off at the end of the workday?			

Comments:_____
_____
_____
_____
_____
_____
_____
_____

ENERGY MONITOR SIGNATURE:_____

DATE:_____

SUPERVISOR SIGNATURE :_____

DATE:_____